

## U.S. ENVIRONMENTAL PROTECTION AGENCY

## AGENCY USE ONLY

PREMANUFACTURE  
NOTICE

## FOR NEW CHEMICAL SUBSTANCES

When  
completed  
send this  
form toDOCUMENT CONTROL OFFICER  
OFFICE OF POLLUTION PREVENTION  
AND TOXIC SUBSTANCES, 7407  
U.S. E.P.A. 401 M STREET, SW  
WASHINGTON, D.C. 20460

Date of receipt

RECEIVED  
CDPT CDIC

2009 DEC 10 AM 11:45

Company Sanitized

Enter the total number of pages  
in the Premanufacture Notice

43

Document control number: 51100000111- P-10-111-P-10-114  
EPA case number: D-12065

## GENERAL INSTRUCTIONS

51100000114 TS-D O 4 3 3 W

- You must provide all information requested in this form to the extent that it is known to or reasonably ascertainable by you. Make reasonable estimates if you do not have actual data.
- Before you complete this form, you should read the "Instructions Manual for Premanufacture Notification" (the Instructions Manual is available from the Toxic Substances Control Act (TSCA) Information Service by calling 202-554-1404, or faxing 202-554-5603).
- If a user fee has been remitted for this notice (40 CFR 700.45), indicate in the boxes above the TS-user fee identification number you have generated. Remember, your user fee ID number must also appear on your corresponding fee remittance, which is sent to EPA, HQ Accounting Operations Branch (PM-226), P.O. 360399M, Pittsburgh, PA 15251-6399, Attn. TSCA User fee.

## Part I — GENERAL INFORMATION

You must provide the currently correct Chemical Abstracts (CA) Name of the new chemical substance, even if you claim the identity as confidential. You may authorize another person to submit chemical identity information for you, but your submission will not be complete and the review will not begin until EPA receives this information. A letter in support of your submission should reference your TS user fee identification number. You must submit an original and two copies of this notice including all test data. If you claimed any information as confidential, a single sanitized copy must also be submitted.

## Part II — HUMAN EXPOSURE AND ENVIRONMENTAL RELEASE

If there are several manufacture, processing, or use operations to be described in Part II, sections A and B of this notice, reproduce the sections as needed.

## Part III — LIST OF ATTACHMENTS

Attach additional sheets if there is not enough space to answer a question fully. Label each continuation sheet with the corresponding section heading. In Part III, list these attachments, any test data or other data and any optional information included in the notice.

## OPTIONAL INFORMATION

You may include any information that you want EPA to consider in evaluating the new substance. On page 11 of this form, space has been provided for you to described pollution prevention and recycling information you may have regarding the new substance.

So-called "binding" boxes are included throughout this form for you to indicate your willingness to be bound to certain statements you make in this section, such as use, production volume, protective equipment . . . This option is intended to reduce delays that routinely accompany the development of consent orders or Significant New Use Rules. Except in the case of exemption applications (such as TMEA, LVE, LOREX) where certain information provided in such notification is binding on the submitter when the Agency approves the exemption application, checking a binding box in this notice does not by itself prohibit the submitter from later deviating from the information (except chemical identity) reported in the form.

## CONFIDENTIALITY CLAIMS

You may claim any information in this notice as confidential. To assert a claim on the form, mark (X) the confidential box next to the information that you claim as confidential. To assert a claim in an attachment, circle or bracket the information you claim as confidential. If you claim information in the notices as confidential, you must also provide a sanitized version of the notice, (including attachments). For additional instructions on claiming information as confidential, read the Instructions Manual.



Mark (x) if any information in this notice is claimed as confidential.

## TEST DATA AND OTHER DATA

You are required to submit all test data in your possession or control and to provide a description of all other data known to or reasonably ascertainable by you, if these data are related to the health and environmental effects on the manufacture, processing, distribution in commerce, use, or disposal of the new chemical substance. Standard literature citations may be submitted for data in the open scientific literature. Complete test data (written in English), not summaries of data, must be submitted if they do not appear in the open literature. You should clearly identify whether test data is on the substance or on an analog. Also, the chemical composition of the tested material should be characterized. Following are examples of test data and other data. Data should be submitted according to the requirements of §720.50 of the Premanufacture Notification Rule (40 CFR Part 720).

## Test Data (Check Below any included in this notice)

- |                                 |                                         |                                                             |                              |
|---------------------------------|-----------------------------------------|-------------------------------------------------------------|------------------------------|
| • Environmental fate data       | <input type="checkbox"/> Yes            | • Other data                                                | <input type="checkbox"/> Yes |
| • Health effects data           | <input type="checkbox"/> Yes            | Risk assessments                                            |                              |
| • Environmental effects data    | <input type="checkbox"/> Yes            | Structure/activity relationships                            |                              |
| • Physical/Chemical Properties* | <input checked="" type="checkbox"/> Yes | Test data not in the possession or control of the submitter |                              |

\* A physical and chemical properties worksheet is located on the last page of this form.

## TYPE OF NOTICE

(Check Only One)

- ☒ PMN (Premanufacture Notice)
- ☐ INTERMEDIATE PMN (submitted in sequence with final product PMN)
- ☐ SNUN (Significant New Use Notice)
- ☐ TMEA (Test Marketing Exemption Application)
- ☐ LVE (Low Volume Exemption) @ 40 CFR 723.50(c)(1)
- ☐ LOREX (Low Release/Low Exposure Exemption) @ 40 CFR 723.50(c)(2)
- ☐ LVE Modification
- ☐ LOREX Modification

## IS THIS A CONSOLIDATED PMN?

☒ Yes# of chemicals 4  
(Prenotice Communication # required, enter # on page 3)

Company Sanitized

323329

Public reporting burden for this collection of information is estimated to average 110 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M. St., S.W., Washington, D.C. 20460; and to the Office of Management and Budget, Paperwork Reduction Act (2070-0012), Washington, D.C. 20503.

### CERTIFICATION

I certify that to the best of my knowledge and belief:

1. The company named in Part I, section A, subsection 1a of this notice form intends to manufacture or import for a commercial purpose, other than in small quantities solely for research and development, the substance identified in Part I, Section B.
2. All information provided in this notice is complete and truthful as of the date of submission.
3. I am submitting with this notice all test data in my possession or control and a description of all other data known to or reasonably ascertainable by me as required by §720.50 of the Premanufacture Notification Rule.

#### Additional Certification Statements:

If you are submitting a PMN, Intermediate PMN, Consolidated PMN, or SNUN, check the following user fee certification statement that applies:

- ☒ The Company named in Part I, Section A has remitted the fee of \$2500 specified in 40 CFR 700.45(b), or
- ☐ The Company named in Part I, Section A has remitted the fee of \$1000 for an Intermediate PMN (defined @ 40 CFR 700.43) in accordance with 40 CFR 700.45(b), or
- ☐ The Company named in Part I Section A is a small business concern under 40 CFR 700.43 and has remitted a fee of \$100 in accordance with 40 CFR 700.45(b).

If you are submitting a **low volume exemption (LVE)** application in accordance with 40 CFR 723.50(c)(1) or a **Low release and low exposure exemption (LoRex)** application in accordance with 40 CFR 723.50(c)(2), check the following certification statements:

- ☐ The manufacturer submitting this notice intends to manufacture or import the new chemical substance for commercial purposes, other than in small quantities solely for research and development, under the terms of 40 CFR 723.50.
- ☐ The manufacturer is familiar with the terms of this section and will comply with those terms; and
- ☐ The new chemical substance for which the notice is submitted meets all applicable exemption conditions.
- ☐ If this application is for an LVE in accordance with 40 CFR 723.50(c)(1), the manufacturer intends to commence manufacture of the exempted substance for commercial purposes within 1 year of the date of the expiration of the 30 day review period.

The accuracy of the statements you make in this notice should reflect your best prediction of the anticipated facts regarding the chemical substance described herein. Any knowing and willful misinterpretation is subject to criminal penalty pursuant to 18 USC 1001.

Signature and title of Authorized Official (Original Signature Required)

*Martin Adams*

EHS Director

Date

12-07-09

Confidential

Signature of agent - (if applicable)

Date

<b>Part I -- GENERAL INFORMATION</b>								
<b>Section A -- SUBMITTER IDENTIFICATION</b>							Confidential	
Mark ( ) the "Confidential" box next to any subsection you claim as confidential								
<b>1a. Person Submitting Notice (in U.S.)</b>	Name of authorized official		Position				[ ]	
	<u>Martin Debney</u>		<u>EHS</u>					
	Company							
	<u>The Dow Chemical Company</u>							
	Mailing address (number and street)							
<u>2040 Dow Center</u>						[ ]		
City, State, ZIP Code								
<u>Midland, MI 48674</u>								
<b>b. Agent (if applicable)</b>	Name of authorized official		Position				[ ]	
	Company							
	Mailing address (number and street)							
	City, State, ZIP Code		Telephone	Area Code	Number			
						[ ]		
<b>c. If you are submitting this notice as part of a joint submission, mark (X) this box.</b> <span style="float: right;">→ <input type="checkbox"/></span>								
<b>Joint Submitter (if applicable)</b>	Name of authorized official		Position				[ ]	
	Company							
	Mailing address (number and street)							
	City, State, ZIP Code		Telephone	Area Code	Number			
						[ ]		
<b>2. Technical Contact (in U.S.)</b>	Name of authorized official		Position				[ ]	
	<u>Imogene Treble</u>		<u>Regulatory Consultant</u>					
	Company							
	<u>The Dow Chemical Company</u>							
	Mailing address (number and street)							
<u>1803 Building</u>						[ ]		
City, State, ZIP Code		Telephone	Area Code	Number				
<u>Midland, MI 48674</u>			<u>732</u>	<u>563-5706</u>				
<b>3. If you have had a prenotice communication (PC) concerning this notice and EPA assigned a PC Number to the notice, enter the number.</b>			<b>PC 5488</b>		Mark (X) if none → <input type="checkbox"/>		[ ]	
<b>4. If you previously submitted an exemption application for the chemical substance covered by this notice, enter the exemption number assigned by EPA. If you previously submitted a PMN for this substance enter the PMN number assigned by EPA (i.e. withdrawn or incomplete).</b>			Mark (X) if none → <input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
<b>5. If you have submitted a notice of Bona fide intent to manufacture or import for the chemical substance covered by this notice, enter the notice number assigned by EPA.</b>			Mark (X) if none → <input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
<b>6. Type of Notice - Mark (X)</b>		1. <input checked="" type="checkbox"/> Manufacture Only <input type="checkbox"/> Binding Option Mark (X)		2. <input type="checkbox"/> Import Only <input type="checkbox"/> Binding Option Mark (X)		3. <input type="checkbox"/> Both		

# **Part I -- GENERAL INFORMATION -- Continued**

## **Section B -- CHEMICAL IDENTITY INFORMATION:**

You must provide a currently correct Chemical Abstracts (CA) name of the substance based on the ninth Collective Index (9CI) of CA nomenclature rules and conventions.

Mark (X) the "Confidential" box next to any item you claim as confidential

Complete either item 1 (Class 1 or 2 substances) or 2 (Polymers) as appropriate. Complete all other items.

If another person will submit chemical identity information for you (for either Item 1 or 2), mark (X) the box at the right. Identify the name, company, and address of that person in a continuation sheet.

☐ Conf-  
dential

1. Class 1 or 2 chemical substances (for definitions of class 1 and class 2 substances, see the Instructions Manual)

a. Class of substance - Mark (X)      1 ☐ Class 1      or      2 ☐ Class 2

b. Chemical name (Currently correct Chemical Abstracts (CA) Name that is consistent with TSCA Inventory listings for similar substances. For Class 1 substances a CA Index Name must be provided. For Class 2 substances either a CA Index Name or CA Preferred Name must be provided, which ever is appropriate based on CA 9CI nomenclature rules and conventions).

c. Please identify which method you used to develop or obtain the specified chemical identity information reported in this notice: (check one).

☐ Method 1 (CAS Inventory Expert Service - a copy of the Identification report obtained from the CAS Inventory Expert Services must be submitted as an attachment to this notice)

☐ Method 2 (Other Source) Sci-Finder

d. Molecular formula and CAS Registry Number (if a number already exists for the substance)

CAS#

e. For a class 1 substance, provide a complete and correct chemical structure diagram. For a class 2 substance - (1) List the immediate precursor substances with their respective CAS Registry Numbers. (2) Describe the nature of the reaction or process. (3) Indicate the range of composition and the typical composition (where appropriate). (4) Provide a correct representative or partial chemical structure diagram, as complete as can be known, if one can be reasonably ascertained.

☐

Mark (X) this box if you attach a continuation sheet.

# Part I -- GENERAL INFORMATION -- Continued

## Section B -- CHEMICAL IDENTITY INFORMATION -- Continued

2. Polymers (For a definition of polymer, see the Instructions Manual.)

- a. Indicate the number-average weight of the lowest molecular weight composition of the polymer you intend to manufacture.

Indicate maximum weight percent of low molecular weight species (not including residual monomers, reactants, or solvents) below 500 and below 1,000 absolute molecular weight of that composition.

Describe the methods of measurement or the basis for your estimates: GPC ☐ Other ☐: (Specify)

i) lowest number average molecular weight: \_\_\_\_\_

ii) maximum weight % below 500 molecular weight: \_\_\_\_\_

iii) maximum weight % below 1000 molecular weight: \_\_\_\_\_

Confidential

X

☐

Mark (X) this box if you attach a continuation sheet.

- b. You must make separate confidentiality claims for monomer or other reactant identity, composition information, and residual information. Mark (X) the "Confidential" box next to any item you claim as confidential

- (1) - Provide the specific chemical name and CAS Registry Number (if a number exists) of each monomer or other reactant used in the manufacture of the polymer.
- (2) - Mark (X) this column if entry in column (1) is confidential.
- (3) - Indicate the typical weight percent of each monomer or other reactant in the polymer.
- (4) - Mark (X) the identity column if you want a monomer or other reactant used at two weight percent or less to be listed as part of the polymer description on the TSCA Chemical Substance Inventory.
- (5) - Mark (X) this column if entries in columns (3) and (4) are confidential.
- (6) - Indicate the maximum weight percent of each monomer or other reactant that may be present as a residual in the polymer as manufactured for commercial purposes.
- (7) - Mark (X) this column if entry in column (6) is confidential.

Monomer or other reactant and CAS Registry Number (1)	Confidential (2)	Typical composition (3)	Identity Mark (X) (4)	Confidential (5)	Maximum residual (6)	Confidential (7)
	X			X		X
	X			X		X
	X			X		X
					%	
					%	
					%	

☐

Mark (X) this box if you attach a continuation sheet.

- c. Please identify which method you used to develop or obtain the specified chemical identity information reported in this notice (check one).

☐ Method 1 (CAS Inventory Expert Service - a copy of the identification report  
obtained from CAS Inventory Expert Service must be submitted as  
as attachment to this notice) ☐ Method 2 (other source)

X

- d. The currently correct Chemical Abstracts (CA) name for the polymer that is consistent with TSCA Inventory listings for similar polymers.

X

- e. Provide a correct representative or partial chemical structure diagram, as complete as can be known, if one can be reasonably ascertained.

X



5 1 1 0 0 0 0 0 1 1 1 / S

☒

Mark (X) this box if you attach a continuation sheet.

P10-111





# ***Inventory Expert Service***

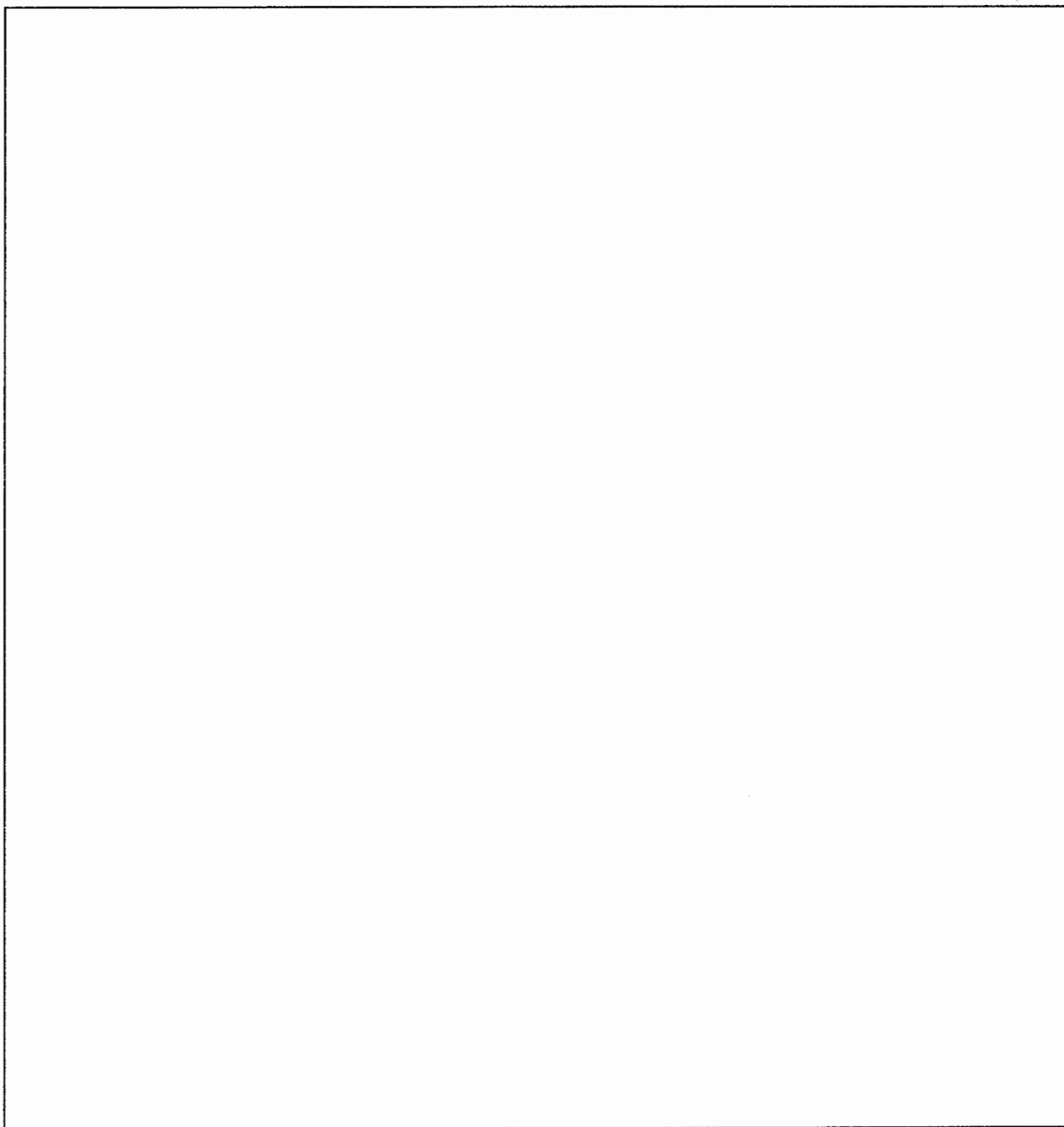
A division of the American Chemical Society

Phone: 800-631-1884, 614-447-3870

Fax: 614-447-3747

E-mail: [answers@cas.org](mailto:answers@cas.org)

Web: [www.cas.org/products/client/](http://www.cas.org/products/client/)



# Part I -- GENERAL INFORMATION -- Continued

## Section B -- CHEMICAL IDENTITY INFORMATION -- Continued

2. Polymers (For a definition of polymer, see the Instructions Manual.)

Confidential

- a. Indicate the number-average weight of the lowest molecular weight composition of the polymer you intend to manufacture. Indicate maximum weight percent of low molecular weight species (not including residual monomers, reactants, or solvents) below 500 and below 1,000 absolute molecular weight of that composition.

X

Describe the methods of measurement or the basis for your estimates: GPC ☐ Other ☐: (Specify) Calculation

- i) lowest number average molecular weight: \_\_\_\_\_  
 ii) maximum weight % below 500 molecular weight: \_\_\_\_\_  
 iii) maximum weight % below 1000 molecular weight: \_\_\_\_\_

☐ Mark (X) this box if you attach a continuation sheet.

- b. You must make separate confidentiality claims for monomer or other reactant identity, composition information, and residual information. Mark (X) the "Confidential" box next to any item you claim as confidential
- (1) - Provide the specific chemical name and CAS Registry Number (if a number exists) of each monomer or other reactant used in the manufacture of the polymer.
  - (2) - Mark (X) this column if entry in column (1) is confidential.
  - (3) - Indicate the typical weight percent of each monomer or other reactant in the polymer.
  - (4) - Mark (X) the identity column if you want a monomer or other reactant used at two weight percent or less to be listed as part of the polymer description on the TSCA Chemical Substance Inventory.
  - (5) - Mark (X) this column if entries in columns (3) and (4) are confidential.
  - (6) - Indicate the maximum weight percent of each monomer or other reactant that may be present as a residual in the polymer as manufactured for commercial purposes.
  - (7) - Mark (X) this column if entry in column (6) is confidential.

Monomer or other reactant and CAS Registry Number (1)	Confidential (2)	Typical composition (3)	Identity Mark (X) (4)	Confidential (5)	Maximum residual (6)	Confidential (7)
	X			X		X
	X			X		X
	X			X		X
	X			X		X
		%			%	
		%			%	

☐ Mark (X) this box if you attach a continuation sheet.

- c. Please identify which method you used to develop or obtain the specified chemical identity information reported in this notice (check one).
- ☐ Method 1 (CAS Inventory Expert Service - a copy of the identification report obtained from CAS Inventory Expert Service must be submitted as attachment to this notice) ☐ Method 2 (other source)

X

- d. The currently correct Chemical Abstracts (CA) name for the polymer that is consistent with TSCA Inventory listings for similar polymers.

X

- e. Provide a correct representative or partial chemical structure diagram, as complete as can be known, if one can be reasonably ascertained.

X

☒ Mark (X) this box if you attach a continuation sheet.





## ***Inventory Expert Service***

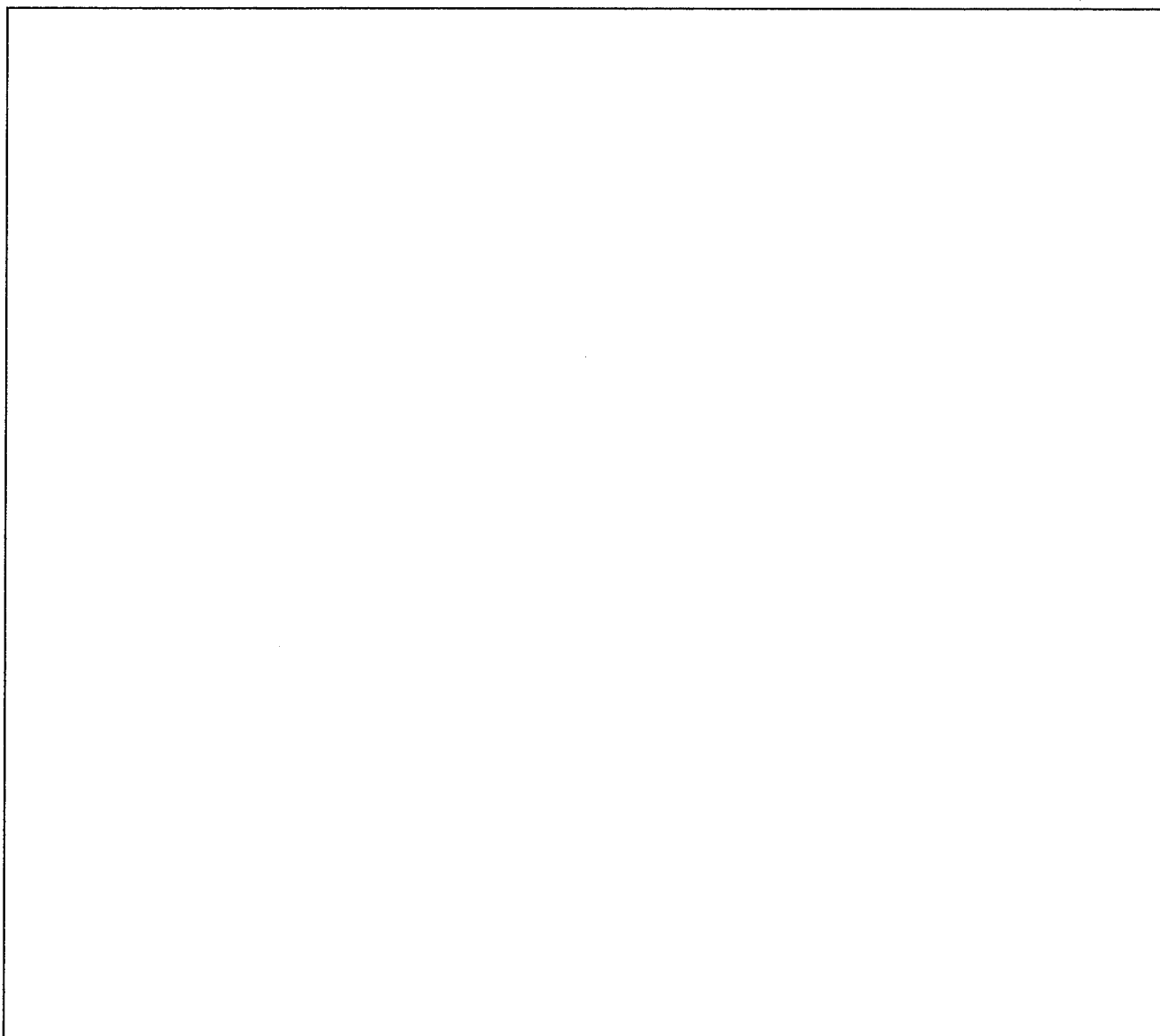
A division of the American Chemical Society

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Fax: 614-447-3747

E-mail: [answers@cas.org](mailto:answers@cas.org)

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Page 5(e)

# Part I -- GENERAL INFORMATION -- Continued

## Section B -- CHEMICAL IDENTITY INFORMATION -- Continued

2. Polymers (For a definition of polymer, see the Instructions Manual.)

Confidential

- a. Indicate the number-average weight of the lowest molecular weight composition of the polymer you intend to manufacture. Indicate maximum weight percent of low molecular weight species (not including residual monomers, reactants, or solvents) below 500 and below 1,000 absolute molecular weight of that composition.

X

Describe the methods of measurement or the basis for your estimates: GPC ☐ Other ☐: (Specify) Calculation

- i) lowest number average molecular weight: \_\_\_\_\_
- ii) maximum weight % below 500 molecular weight: \_\_\_\_\_
- iii) maximum weight % below 1000 molecular weight: 85% \_\_\_\_\_

☐ Mark (X) this box if you attach a continuation sheet.

- b. You must make separate confidentiality claims for monomer or other reactant identity, composition information, and residual information. Mark (X) the "Confidential" box next to any item you claim as confidential
- (1) - Provide the specific chemical name and CAS Registry Number (if a number exists) of each monomer or other reactant used in the manufacture of the polymer.
  - (2) - Mark (X) this column if entry in column (1) is confidential.
  - (3) - Indicate the typical weight percent of each monomer or other reactant in the polymer.
  - (4) - Mark (X) the identity column if you want a monomer or other reactant used at two weight percent or less to be listed as part of the polymer description on the TSCA Chemical Substance Inventory.
  - (5) - Mark (X) this column if entries in columns (3) and (4) are confidential.
  - (6) - Indicate the maximum weight percent of each monomer or other reactant that may be present as a residual in the polymer as manufactured for commercial purposes.
  - (7) - Mark (X) this column if entry in column (6) is confidential.

Monomer or other reactant and CAS Registry Number (1)	Confidential (2)	Typical composition (3)	Identity Mark (X) (4)	Confidential (5)	Maximum residual (6)	Confidential (7)
	X			X		X
	X			X		X
	X		X	X		X
	X			X		X
	X			X		X
	X			X		X
	X			X		X
		%			%	

☐ Mark (X) this box if you attach a continuation sheet.

- c. Please identify which method you used to develop or obtain the specified chemical identity information reported in this notice (check one).
- ☐ Method 1 (CAS Inventory Expert Service - a copy of the identification report obtained from CAS Inventory Expert Service must be submitted as attachment to this notice) ☐ Method 2 (other source)

X

- d. The currently correct Chemical Abstracts (CA) name for the polymer that is consistent with TSCA Inventory listings for similar polymers.

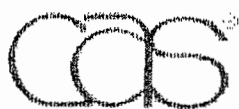
X

- e. Provide a correct representative or partial chemical structure diagram, as complete as can be known, if one can be reasonably ascertained.

X

☒ Mark (X) this box if you attach a continuation sheet.





# ***Inventory Expert Service***

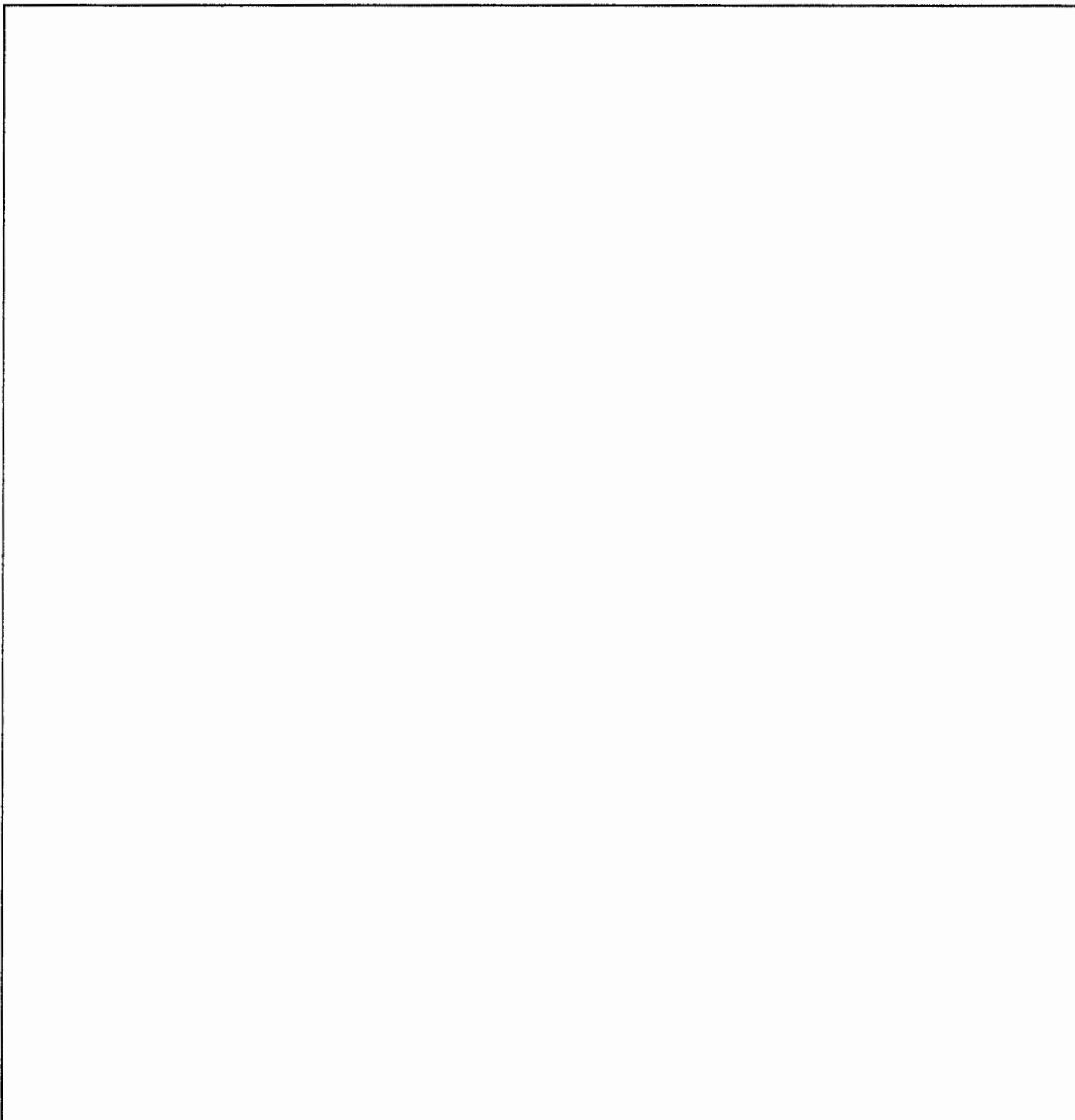
A division of the American Chemical Society

Phone: 800-631-1884, 614-447-3870

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# Part I -- GENERAL INFORMATION -- Continued

## Section B -- CHEMICAL IDENTITY INFORMATION -- Continued

2. Polymers (For a definition of polymer, see the Instructions Manual.)

Confidential

- a. Indicate the number-average weight of the lowest molecular weight composition of the polymer you intend to manufacture. Indicate maximum weight percent of low molecular weight species (not including residual monomers, reactants, or solvents) below 500 and below 1,000 absolute molecular weight of that composition.

X

Describe the methods of measurement or the basis for your estimates: GPC ☐ Other ☐: (Specify) Calculation

- i) lowest number average molecular weight: \_\_\_\_\_  
 ii) maximum weight % below 500 molecular weight: 50% \_\_\_\_\_  
 iii) maximum weight % below 1000 molecular weight: 85% \_\_\_\_\_

☐ Mark (X) this box if you attach a continuation sheet.

- b. You must make separate confidentiality claims for monomer or other reactant identity, composition information, and residual information. Mark (X) the "Confidential" box next to any item you claim as confidential
- (1) - Provide the specific chemical name and CAS Registry Number (if a number exists) of each monomer or other reactant used in the manufacture of the polymer.
  - (2) - Mark (X) this column if entry in column (1) is confidential.
  - (3) - Indicate the typical weight percent of each monomer or other reactant in the polymer.
  - (4) - Mark (X) the identity column if you want a monomer or other reactant used at two weight percent or less to be listed as part of the polymer description on the TSCA Chemical Substance Inventory.
  - (5) - Mark (X) this column if entries in columns (3) and (4) are confidential.
  - (6) - Indicate the maximum weight percent of each monomer or other reactant that may be present as a residual in the polymer as manufactured for commercial purposes.
  - (7) - Mark (X) this column if entry in column (6) is confidential.

Monomer or other reactant and CAS Registry Number (1)	Confidential (2)	Typical composition (3)	Identity Mark (X) (4)	Confidential (5)	Maximum residual (6)	Confidential (7)
	X			X		X
	X			X		X
	X		X	X		X
	X			X		X
	X			X		X
	X			X		X
	X			X		X
	X			X		X
	X			X		X

☐ Mark (X) this box if you attach a continuation sheet.

- c. Please identify which method you used to develop or obtain the specified chemical identity information reported in this notice (check one).
- ☐ Method 1 (CAS Inventory Expert Service - a copy of the identification report obtained from CAS Inventory Expert Service must be submitted as attachment to this notice) ☐ Method 2 (other source)

X

- d. The currently correct Chemical Abstracts (CA) name for the polymer that is consistent with TSCA Inventory listings for similar polymers.

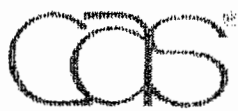
X

- e. Provide a correct representative or partial chemical structure diagram, as complete as can be known, if one can be reasonably ascertained.

X

☒ Mark (X) this box if you attach a continuation sheet.





# ***Inventory Expert Service***

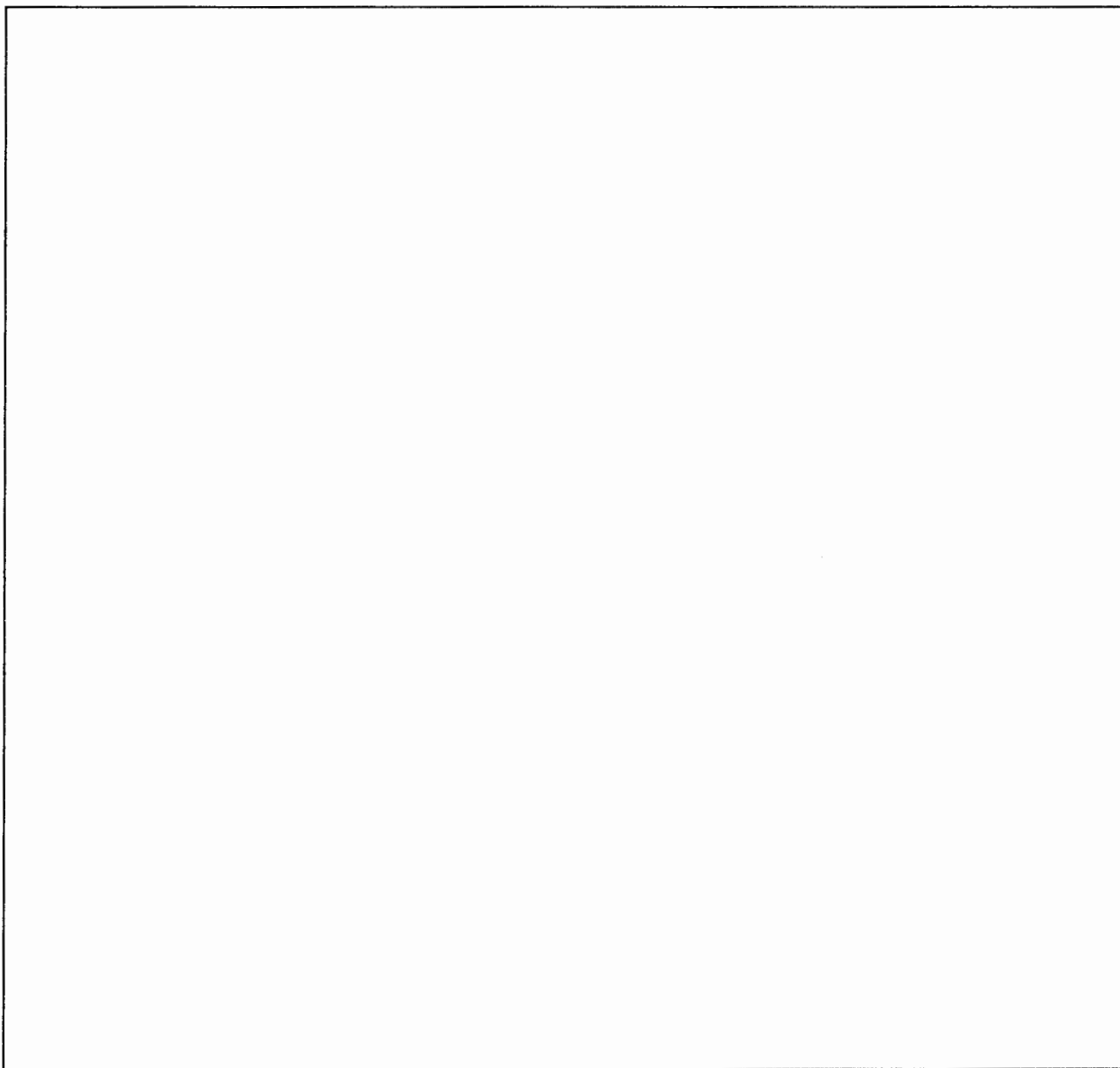
A division of the American Chemical Society

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Part I -- GENERAL INFORMATION -- Continued						
Section B -- CHEMICAL IDENTITY INFORMATION -- Continued						
3. Impurities						
(a) - Identify each impurity that may be reasonably anticipated to be present in the chemical substance as manufactured for commercial purpose. Provide the CAS Registry Number if available. If there are unidentified impurities, enter "unidentified."						
(b) - Estimate the maximum weight % of each impurity. If there are unidentified impurities, estimate their total weight %.						
Impurity and CAS Registry Number  (a)					Maximum percent (b)	Confidential
					%	
<input type="checkbox"/> Mark (X) this box if you attach a continuation sheet.						
4. Synonyms - Enter any chemical synonyms for the new chemical identified in subsection 1 or 2.					Confidential	
<input type="checkbox"/> Mark (X) this box if you attach a continuation sheet.						
5. Trade identification - List trade names for the new chemical substance identified in subsection 1 or 2.					X	
<input type="checkbox"/> Mark (X) this box if you attach a continuation sheet.						
6. Generic chemical name - If you claim chemical identity as confidential, you must provide a generic name for your substance that reveals the specific chemical identity of the new chemical substance to the maximum extent possible. Refer to the TSCA Chemical Substance Inventory, 1985 Edition, Appendix B for guidance on developing generic names.  Benzene dicarboxylic acid, polyester with glycols and polyethylene glycol						
<input type="checkbox"/> Mark (X) this box if you attach a continuation sheet.						
7. Byproducts - Describe any byproducts resulting from the manufacture, processing, use, or disposal of the new chemical substance. Provide the CAS Registry Number if available.						
Byproduct (1)			CAS Registry Number (2)		Confidential	
Water (10wt% maximum)						
Light Organics						
<input type="checkbox"/> Mark (X) this box if you attach a continuation sheet.						

## Part I -- GENERAL INFORMATION -- Continued

### Section C -- PRODUCTION, IMPORT, AND USE INFORMATION:

Mark (X) the "Confidential" box next to any item you claim as confidential.

- 1. Production volume** -- Estimate the **maximum** production volume during the first 12 months of production. Also estimate the maximum production volume for any consecutive 12-month period during the first three years of production. Estimates should be on 100% new chemical substance basis. For a Low Volume Exemption application, if you choose to have your notice reviewed at a lower production volume than 10,000 kg/yr, specify the volume and mark (x) in the binding box. If granted, you are bound to this volume

Maximum first 12-month production (kg/yr) (100% new chemical substance basis)	Maximum 12-month production (kg/yr) (100% new chemical substance basis)	Confidential	Binding Option Mark (x)
		<b>X</b>	

- 2. Use Information** -- You must make separate confidentiality claims for the description of the category of use, the percent of production volume devoted to each category, the formulation of the new substance, and other use information. Mark (X) the "Confidential" Box next to any item you claim as confidential.

- a. (1) -- Describe each intended category of use of the new chemical substance by function and application..
- (2) -- Mark (X) this column if entry column (1) is confidential business information (CBI).
- (3) -- Indicate your willingness to have the information provided in column (1) binding.
- (4) -- Estimate the percent of total production for the first three years devoted to each category of use.
- (5) -- Mark (X) this column if entry in column (4) is confidential business information (CBI).
- (6) -- Estimate the percent of the new substance as formulated in mixtures, suspensions, emulsions, solutions, or gels as manufactured for commercial purposes at sites under your control associated with each category of use.
- (7) -- Mark (X) this column if entry in column (6) is confidential business information (CBI).
- (8) -- Indicate % of product volume expected for the listed "use" sectors. Mark more than one box if appropriate. Mark (X) to indicate your willingness to have the use type provided in (8) binding.
- (9) -- Mark (X) this column if entry(ies) in column (8) is (are) confidential business information (CBI).

Category of use (1)  (by function and application i.e. a dispersive dye for finishing polyester fibers)	CBI (2)	Binding Option Mark (x) (3)	Production % (4)	CBI (5)	% in Formulation (6)	CBI (7)	% of substance expected per use (8)					CBI (9)
							Site-limited	Consumer	Industrial	Commercial	Binding Option	
Component rigid polyurethane foams for construction panels				X		X			100			
Component rigid polyurethane foam for appliances				X		X			100			
Component rigid foam spray applications				X		X			100			
			%		%							
			%		%							
			%		%							
			%		%							
			%		%							

\* If you have identified a "consumer" use, please provide on a continuation sheet a detailed description of the use(s) of this chemical substance in consumer products. In addition include estimates of the concentration of the new chemical substance as expected in consumer products and describe the chemical reactions by which this substance loses its identity in the consumer product.

☐ Mark (X) this box if you attach a continuation sheet.

- b. Generic use description
- If you claim any category of use description in subsection 2a as confidential, enter a generic description of that category. Read the Instructions Manual for examples of generic use descriptions.

☐ Mark (X) this box if you attach a continuation sheet.

- 3. Hazard Information** -- Include in the notice a copy of reasonable facsimile of any hazard warning statement, label, material safety data sheet, or other information which will be provided to any person who is reasonably likely to be exposed to this substance regarding protective equipment or practices for the safe handling, transport, use, or disposal of the new substance. List in part III hazard information you include.

☒ Mark (X) this box if you attach hazard information.

Binding Option Mark (x)

## Part II-- HUMAN EXPOSURE AND ENVIRONMENTAL RELEASE

### Section A -- INDUSTRIAL SITES CONTROLLED BY THE SUBMITTER

Mark (X) the "Confidential" box next to any item you claim as confidential

Complete section A for each type of manufacture, processing, or use operation involving the new chemical substance at industrial sites you control. Importers do not have to complete this section for operations outside the U.S.; however, you may still have reporting requirements if there are further industrial processing or use operations after import. You must describe these operations. See instructions manual

1. Operation description <span style="float: right;">MANUFACTURING</span>				<b>Confidential</b>  <b>X</b>
a. Identity -- Enter the identity of the site at which the operation will occur.				
Name				
Site address (number and street)				
City, County, State, ZIP code				
If the same operation will occur at more than one site, enter the number of sites. Identify the additional sites on a continuation sheet, and if any of the sites have significantly different production rates or operations, include all the information requested in this section for those sites as attachments. <div style="float: right; text-align: center;">                     1  </div>				
<input checked="" type="checkbox"/> Mark (X) this box if you attach a continuation sheet.				
b. Type -- Mark (X) <input checked="" type="checkbox"/> Manufacturing <input type="checkbox"/> Processing <input type="checkbox"/> Use				
c. Amount and Duration -- Complete 1 or 2 as appropriate				
1. Batch	Maximum kg/batch (100% new chemical substance)	Hours/batch	Batches/year	<b>X</b>
2. Continuous	Maximum kg/day (100% new chemical substance)	Hours/day	Days/year	
d. Process description <input checked="" type="checkbox"/> Mark (X) to indicate your willingness to have your process description binding.				
(1) Diagram the major unit operation steps and chemical conversions. Include interim storage and transport containers (specify- e.g. 5 gallon pails, 55 gallon drum, rail car, tank truck, etc.). (2) Provide the identity, the approximate weight (by kg/day or kg/batch on a 100% new chemical substance basis), and entry point of all starting materials and feedstocks (including reactants, solvents, catalysts, etc.), and of all products, recycle streams, and wastes. Include cleaning chemicals (note frequency if not used daily or per batch.). (3) Identify by number the points of release, including small or intermittent releases, to the environment of the new chemical substance.				
<input checked="" type="checkbox"/> Mark (X) this box if you attach a continuation sheet.				









## Part II-- HUMAN EXPOSURE AND ENVIRONMENTAL RELEASE

### Section A -- INDUSTRIAL SITES CONTROLLED BY THE SUBMITTER

Mark (X) the "Confidential" box next to any item you claim as confidential

Complete section A for each type of manufacture, processing, or use operation involving the new chemical substance at industrial sites you control. Importers do not have to complete this section for operations outside the U.S.; however, you may still have reporting requirements if there are further industrial processing or use operations after import. You must describe these operations. See instructions manual

1. Operation description **PROCESSING (BLENDING WITH OTHER POLYOLS AND ADDITIVES)** Confidential **X**

a. Identity -- Enter the identity of the site at which the operation will occur.

Name

Site address (number and street)

City, County, State, ZIP code

If the same operation will occur at more than one site, enter the number of sites. Identify the additional sites on a continuation sheet, and if any of the sites have significantly different production rates or operations, include all the information requested in this section for those sites as attachments.

**X**

☒ Mark (X) this box if you attach a continuation sheet.

b. Type --

Mark (X)

☐ Manufacturing

☒ Processing

☐ Use

c. Amount and Duration -- Complete 1 or 2 as appropriate

1. Batch

Maximum kg/batch (100% new chemical substance)

Hours/batch

Batches/year

**X**

2. Continuous

Maximum kg/day (100% new chemical substance)

Hours/day

Days/year

d. Process description

☒

Mark (X) to indicate your willingness to have your process description binding.

- (1) Diagram the major unit operation steps and chemical conversions. Include interim storage and transport containers (specify- e.g. 5 gallon pails, 55 gallon drum, rail car, tank truck, etc.).
- (2) Provide the identity, the approximate weight (by kg/day or kg/batch on a 100% new chemical substance basis), and entry point of all starting materials and feedstocks (including reactants, solvents, catalysts, etc.), and of all products, recycle streams, and wastes. Include cleaning chemicals (note frequency if not used daily or per batch.).
- (3) Identify by number the points of release, including small or intermittent releases, to the environment of the new chemical substance.

☒ Mark (X) this box if you attach a continuation sheet.



## Part II-- HUMAN EXPOSURE AND ENVIRONMENTAL RELEASE -- Continued

### Section A -- INDUSTRIAL SITES CONTROLLED BY THE SUBMITTER -- Continued (Manufacturing)

- 2. Occupational Exposure** -- You must make separate confidentiality claims for the description of worker activity, physical form of the new chemical substance, number of works exposed, and duration of activity. Mark (X) the "Confidential" box next to any item you claim as confidential.
- (1) -- Describe the activities (i.e. bag dumping, tote filling, unloading drums, sampling, cleaning, etc.) in which workers may be exposed to the substance.
  - (2) -- Mark (X) this column if entry in column (1) is confidential business information (CBI).
  - (3) -- Describe any protective equipment and engineering controls used to protect workers.
  - (4) and (6) -- Indicate your willingness to have the information provided in column (3) or (5) binding.
  - (5) -- Indicate the physical form(s) of the new chemical substance (e.g., solid: crystal, granule, powder, or dust) and % new chemical substance (if part of a mixture) at the time of exposure.
  - (7) -- Mark (X) this column if entry in column (5) is confidential business information (CBI).
  - (8) -- Estimate the maximum number of workers involved in each activity for all sites combined.
  - (9) -- Mark (X) this column if entry in column (8) is confidential business information (CBI).
  - (10) and (11) -- Estimate the maximum duration of the activity for any worker in hours per day and days per year.
  - (12) -- Mark (X) this column if entries in columns (10) and (11) are confidential business information (CBI).

Worker activity (i.e., bag dumping, filling drums) (1)	CBI (2)	Protective Equipment/ Engineering Controls (3)	Binding Option Mark (X) (4)	Physical forms(s) and % new substance (5)	Binding Option Mark (X) (6)	CBI (7)	# of Workers Exposed (8)	CBI (9)	Maximu m Hrs/day (10)	duration Days/yr (11)	CBI (12)
Product Sampling & Quality Control		Monogoggles, gloves and protective clothing		Slurry/Liq (50-100%)			2-5		1 hr/day	200	
Product Packaging		Monogoggles, gloves and protective clothing		Liquid (100%)			2-5		3 hr/day	200	
Maintenance		Monogoggles, gloves and protective clothing		Liquid (0-100%)			2-5		8 hr/day	6-10	

☐ Mark (X) this box if you attach a continuation sheet.

- 3. Environmental Release and Disposal** -- You must make separate confidentiality claims for the release number and the amount of the new chemical substance released and other release and disposal information. Mark (X) the "Confidential" box next to each item you claim as confidential.
- (1) -- Enter the number of each release point identified in the process description, part II, section A, subsection 1d(3).
  - (2) -- Estimate the amount of the new substance released (a) directly to the environment or (b) into control technology (in kg/day or kg/batch).
  - (3) -- Mark (X) this column if entries in columns (1) and (2) are confidential business information (CBI).
  - (4) -- Identify the media (stack air, fugitive air (optional-see Instruction Manual), surface water, on-site or off-site land or incineration, POTW, or other (specify)) to which the new substance will be released from that release point.
  - (5) -- a. Describe control technology, if any, and control efficiency that will be used to limit the release of the new substance to the environment. For releases disposed of on land, characterize the disposal method and state whether it is approved for disposal of RCRA hazardous waste. On a continuation sheet, for each site describe any additional disposal methods that will be used and whether the waste is subject to secondary or tertiary on-site treatment. b. Estimate the amount released to the environment after control technology (in kg/day).
  - (6) -- Mark (X) this column if entries in columns (4) and (5) are confidential business information (CBI).
  - (7) -- Identify the destination(s) of releases to water. Please supply NPDES (National Pollutant Discharge Elimination System) numbers for direct discharges or NPDES numbers of the POTW (Publicly Owned Treatment Works). Mark (X) if the POTW name or NPDES # is confidential business information (CBI).

Release Number (1)	Amount of new substance released (2a) (2b)		CBI (3)	Media of release e.g. stack air (4)	Control technology and efficiency (you may wish to optionally attach efficiency data) (5a)		Binding Mark (X) (5b)	CBI (6)
1		0.1 kg/batch		Solvent	Packaged as lab waste and then incinerated; 99.99% efficiency		1 x 10 <sup>-5</sup> kg/batch	
2		20 kg/yr		Water	Effluent from steam wash. Collected and incinerated. This effluent occurs only when vessel entry is required (max 1/yr)		0.002 kg/year	
(7) Mark (X) the destination(s) of releases to water.					<input type="checkbox"/> Navigable waterway <input checked="" type="checkbox"/> Other - Specify		provide NPDES #	CBI

☒ Mark (X) this box if you attach a continuation sheet.

## Part II-- HUMAN EXPOSURE AND ENVIRONMENTAL RELEASE -- Continued

### Section A -- INDUSTRIAL SITES CONTROLLED BY THE SUBMITTER -- Continued (Processing)

**2. Occupational Exposure** -- You must make separate confidentiality claims for the description of worker activity, physical form of the new chemical substance, number of works exposed, and duration of activity. Mark (X) the "Confidential" box next to any item you claim as confidential.

- (1) -- Describe the activities (i.e. bag dumping, tote filling, unloading drums, sampling, cleaning, etc.) in which workers may be exposed to the substance.
- (2) -- Mark (X) this column if entry in column (1) is confidential business information (CBI).
- (3) -- Describe any protective equipment and engineering controls used to protect workers.
- (4) and (6) -- Indicate your willingness to have the information provided in column (3) or (5) binding.
- (5) -- Indicate the physical form(s) of the new chemical substance (e.g., solid; crystal, granule, powder, or dust) and % new chemical substance (if part of a mixture) at the time of exposure.
- (7) -- Mark (X) this column if entry in column (5) is confidential business information (CBI).
- (8) -- Estimate the maximum number of workers involved in each activity for all sites combined.
- (9) -- Mark (X) this column if entry in column (8) is confidential business information (CBI).
- (10) and (11) -- Estimate the maximum duration of the activity for any worker in hours per day and days per year.
- (12) -- Mark (X) this column if entries in columns (10) and (11) are confidential business information (CBI).

Worker activity (i.e., bag dumping, filling drums)	CBI	Protective Equipment/ Engineering Controls	Binding Option Mark (x)	Physical forms(s) and % new substance	Binding Option Mark (x)	CBI	# of Workers Exposed	CBI	Maximum Hrs/day	duration Days/yr	CBI
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Quality Control		Monogoggles, gloves and protective clothing		Liq (5- 100%)			2-5		1 hr/day	200	
Product Packaging		Monogoggles, gloves and protective clothing		Liquid (100%)			2-5		3 hr/day	200	
Maintenance		Monogoggles, gloves and protective clothing		Liquid (0- 100%)			2-5		8 hr/day	6-10	
Disposal of used drums		Monogoggles, gloves and protective equipment		Liq (5- 100%)			2		1 hr/day	200	

☐ Mark (X) this box if you attach a continuation sheet.

**3. Environmental Release and Disposal** -- You must make separate confidentiality claims for the release number and the amount of the new chemical substance released and other release and disposal information. Mark (X) the "Confidential" box next to each item you claim as confidential.

- (1) -- Enter the number of each release point identified in the process description, part II, section A, subsection 1d(3).
- (2) -- Estimate the amount of the new substance released (a) directly to the environment or (b) into control technology (in kg/day or kg/batch).
- (3) -- Mark (X) this column if entries in columns (1) and (2) are confidential business information (CBI).
- (4) -- Identify the media (stack air, fugitive air (optional-see Instruction Manual), surface water, on-site or off-site land or incineration, POTW, or other (specify)) to which the new substance will be released from that release point.
- (5) -- a. Describe control technology, if any, and control efficiency that will be used to limit the release of the new substance to the environment. For releases disposed of on land, characterize the disposal method and state whether it is approved for disposal of RCRA hazardous waste. On a continuation sheet, for each site describe any additional disposal methods that will be used and whether the waste is subject to secondary or tertiary on-site treatment. b. Estimate the amount released to the environment after control technology (in kg/day).
- (6) -- Mark (X) this column if entries in columns (4) and (5) are confidential business information (CBI).
- (7) -- Identify the destination(s) of releases to water. Please supply NPDES (National Pollutant Discharge Elimination System) numbers for direct discharges or NPDES numbers of the POTW (Publicly Owned Treatment Works). Mark (X) if the POTW name or NPDES # is confidential business information (CBI).

Release Number (1)	Amount of new substance released		CBI (3)	Media of release e.g. stack air (4)	Control technology and efficiency (you may wish to optionally attach efficiency data)			CBI (6)
	(2a)	(2b)			(5a)	Binding Mark (X)	(5b)	
1		0.5 kg/batch		Solvent	Lab waste (Lab Packed & Incinerated)			
2		~10 kg/day		Residue in drums/ trucks	Sent to a packaging recycler (where any effluents are incinerated)			
3		~20 kg/yr		water	Effluent collected and incinerated. To occur only if vessel entry is required (~1/yr)			
(7) Mark (X) the <input type="checkbox"/> below: destination(s) of releases to water.				CBI	<input type="checkbox"/> Navigable <input type="checkbox"/> Other - Specify waterway	provide NPDES #		CBI

☐ Mark (X) this box if you attach a continuation sheet.

## Part II-- HUMAN EXPOSURE AND ENVIRONMENTAL RELEASE -- Continued

### Section B -- INDUSTRIAL SITES CONTROLLED BY OTHERS

Complete section B for typical processing or use operations involving the new chemical substance at sites you do not control. Importers do not have to complete this section for operations outside the U.S.; however, you must report any processing or use activities after import. See the Instructions Manual. Complete a separate section B for each type of processing, or use operation involving the new chemical substance. If the same operation is performed at more than one site describe the typical operation common to these sites. Identify additional sites on a continuation sheet.

- 1. Operation Description** -- To claim information in this section as confidential, circle or bracket the specific information that you claim as confidential.
- (1) -- Diagram the major unit operation steps and chemical conversions, including interim storage and transport containers (specify - e.g. 5 gallon pails, 55 gallon drums, rail cars, tank trucks, etc). On the diagram, identify by letter and briefly describe each worker activity. (2) -- Provide the identity, the approximate weight (by kg/day or kg/batch, on an 100% new chemical substance basis), and entry point of all feedstocks (including reactants, solvents and catalysts, etc) and all products, recycle streams, and wastes. Include cleaning chemicals (note frequency if not used daily or per batch). (3) -- Identify by number the points of release, including small or intermittent releases, to the environment of the new chemical substance. (4) Please enter the # of sites (remember to identify the locations of these sites on a continuation sheet):

# of sites



Mark (X) this box if you attach a continuation sheet.

### 2. Worker Exposure/Environmental Release

- (1) -- From the diagram above, provide the letter for each worker activity. Complete 2-8 for each worker activity described.
- (2) -- Estimate the number of workers exposed for all sites combined.
- (4) -- Estimate the typical duration of exposure per worker in (a) hours per day and (b) days per year.
- (6) -- Describe physical form of exposure and % new chemical substance (if in mixture), and any protective equipment and engineering controls, if any, used to protect workers.
- (7) -- Estimate the percent of the new substance as formulated when packaged or used as a final product.
- (9) -- From the process diagram above, enter the number of each release point. Complete 9-13 for each release point identified.
- (10) -- Estimate the amount of the new substance released (a) directly to the environment or (b) into control technology to the environment (in kg/day or kg/batch).
- (12) -- Describe media of release i.e. stack air, fugitive air (optional-see Instructions Manual), surface water, on-site or off-site land or incineration, POTW, or other (specify) and control technology, if any, that will be used to limit the release of the new substance to the environment.
- (14) -- Identify byproducts which may result from the operation.
- (3), (5), (8), (11), (13) and (15) -- Mark (X) this column if any of the preceding entries are confidential business information (CBI).

Letter of Activity	# of Workers Exposed	CBI	Duration of Exposure		CBI	Protective Equip. / Engineering Controls/ Physical Form and % new substance	% in Formulation	CBI	Release Number	Amount of New Substance Released		CBI	Media of Release & Control Technology	CBI
(1)	(2)	(3)	(4a)	(4b)	(5)	(6)	(7)	(8)	(9)	(10a)	(10b)	(11)	(12)	(13)
		X			X			X				X		X
		X			X			X				X		X

(14) -- Byproducts:



Mark (X) this box if you attach a continuation sheet.





## OPTIONAL POLLUTION PREVENTION INFORMATION

To claim information in this section as confidential circle or bracket the specific information that you claim as confidential.

In this section you may provide information not reported elsewhere in this form regarding your efforts to reduce or minimize potential risks associated with activities surrounding manufacturing, processing, use and disposal of the PMN substance. Please include new information pertinent to pollution prevention, including source reduction, recycling activities and safer processes or products available due to the new chemical substance. Source reduction includes the reduction in the amount or toxicity of chemical wastes by technological modification, process and procedure modification, product reformulation, raw materials substitution, and/or inventory control. Recycling refers to the reclamation of useful chemical components from wastes that would otherwise be treated or released as air emissions or water discharges, or land disposal. Descriptions of pollution prevention, source reduction and recycling should emphasize potential risk reduction subsequent to compliance with existing regulatory requirements and can be either quantitative or qualitative. The EPA is interested in the information to assess overall net reductions in toxicity or environmental releases and exposures, not the shifting of risks to other environmental media or non-environmental areas (e.g., occupational or consumer exposure). In addition, information on the relative cost or performance characteristics of the PMN substance to potential alternatives may be provided.

**All information provided in this section will be taken into consideration during the review of this substance. See Instructions Manual and Pollution Prevention Guidance manual for guidance and examples.**

Describe the expected net benefits, such as (1) an overall reduction in risk to human health or the environment; (2) a reduction in the volume manufactured; (3) a reduction in the generation of waste materials through recycling, source reduction or other means; (4) a reduction in potential toxicity or human exposure and/or environmental release; (5) an increase in product performance, a decrease in the cost of production and/or improved operation efficiency of the new chemical substance in comparison to existing chemical substances used in similar application; or (6) the extent to which the new chemical substance may be a substitute for an existing substance that poses a greater overall risk to human health or the environment.

PMN substance described in this document is a key component for improving thermal insulation and flame retardance in Polyurethane rigid foams.

The notified substances are manufactured solely for use in production of polyurethane polymers (e.g., insulation, sealants, adhesives, foams) used in industrial applications. Wastewater emissions of the PMN substance are expected to be negligible, and there are no expected consumer product applications of the PMN substances

☐

Mark (X) this box if you attach a continuation sheet.

[illegible]

# **PHYSICAL AND CHEMICAL PROPERTIES WORKSHEET**

To assist EPA's review of physical and chemical properties data, please complete the following worksheet for data you provide and include it in the notice. Identify the property measured, the page of the notice on which the property appears, the value of the property, the units in which the property is measured (as necessary), and whether or not the property is claimed as confidential. The physical state of the neat substance should be provided. These measured properties should be for the neat (100% pure) chemical substance. Properties that are measured for mixtures or formulations should be so noted (% PMN substance in \_\_\_\_). You are not required to submit this worksheet; however, EPA strongly recommends that you do so, as it will simplify review and ensure that confidential information is properly protected. You should submit this worksheet as a supplement to your submission of test data. This worksheet is not a substitute for submission of test data.

Property (a)	Mark (X) if provided	Page number (b)	Value (c)	Measured or Estimate (M or E)	Confidential Mark (X) (d)
Physical state of neat substance			____ (s) <u>X</u> (l) ____ (g)	M	
Vapor pressure @ Temperature <u>100</u> °C			<15 Torr	E	
Density/relative density			1.1 – 1.3 g/cm <sup>3</sup>	M	
Solubility @ Temperature _____ °C Solvent _____			g/_____		
Solubility in water @ Temperature <u>25</u> °C			Partially soluble g/L	E	
Melting temperature			°C		
Boiling / sublimation temperature @ _____ torr pressure			°C		
Spectra		Attachment 3		M	
Dissociation constant					
Particle size distribution					
Octanol / water partition coefficient					
Henry's Law constant					
Volatilization from water					
Volatilization from soil					
pH @ concentration _____					
Flammability					
Explosability					
Adsorption / coefficient					
Other - Specify					



# Safety Data Sheet

Dow Chemical Company Ltd

**Product Name:** IP 9001 Aromatic Polyester Polyol

**Revision Date:** 2009/12/04

**Print Date:** 05 Dec 2009

Dow Chemical Company Ltd encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

## 1. Identification of the substance/preparation and of the company/undertaking

**Product Name**

IP 9001 Aromatic Polyester Polyol

**Use of the substance/preparation**

Component(s) for the manufacture of urethane polymers.

**COMPANY IDENTIFICATION**

Dow Chemical Company Ltd  
Diamond House, Lotus Park  
Kingsbury Crescent  
TW18 3AG Staines, Middlesex  
United Kingdom

Customer Information Number: 0203 139 4000  
For questions about this SDS, contact: SDSQuestion@dow.com

**EMERGENCY TELEPHONE NUMBER**

**24-Hour Emergency Contact:** +44 (0) 1553 761 251  
**Local Emergency Contact:** 00 44 155 37 61 251

## 2. Hazards Identification

This product is not classified as dangerous according to EC criteria.

## 3. Composition/information on ingredients

Component	Amount	Classification:	CAS #	EC #
Polyester polyol##	70.0 - 90.0 %	Not classified.	Confidential	Polymer
Polyethylene glycol##	10.0 - 25.0 %	Not classified.	25322-68-3	500-038-2
Diethylene glycol	3.0 - 9.0 %	Xn: R22	111-46-6	203-872-2

## Voluntarily disclosed component(s).  
See Section 16 for full text of R-phrases.

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#### 4. First-aid measures

**Eye Contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

**Skin Contact:** Immediately flush skin with water while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Destroy contaminated leather items such as shoes, belts, and watchbands.

**Inhalation:** Move person to fresh air; if effects occur, consult a physician.

**Ingestion:** Do not induce vomiting. Seek medical attention immediately. If person is fully conscious give 1 cup or 8 ounces (240 ml) of water. If medical advice is delayed and if an adult has swallowed several ounces of chemical, then give 3-4 ounces (1/3-1/2 Cup) (90-120 ml) of hard liquor such as 80 proof whiskey. For children, give proportionally less liquor at a dose of 0.3 ounce (1 1/2 tsp.) (8 ml) liquor for each 10 pounds of body weight, or 2 ml per kg body weight [e.g., 1.2 ounce (2 1/3 tbsp.) for a 40 pound child or 36 ml for an 18 kg child].

**Notes to Physician:** Due to structural analogy and clinical data, this material may have a mechanism of intoxication similar to ethylene glycol. On that basis, treatment similar to ethylene glycol intoxication may be of benefit. In cases where several ounces (60 - 100 ml) have been ingested, consider the use of ethanol and hemodialysis in the treatment. Consult standard literature for details of treatment. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol (Brent, J. et al., New England Journal of Medicine, Feb. 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. Maintain adequate ventilation and oxygenation of the patient. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

**Emergency Personnel Protection:** First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

#### 5. Fire Fighting Measures

**Extinguishing Media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

**Special Protective Equipment for Firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers,

boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

**Unusual Fire and Explosion Hazards:** Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

**Hazardous Combustion Products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

## 6. Accidental Release Measures

**Steps to be Taken if Material is Released or Spilled:** Contain spilled material if possible. Absorb with materials such as: Dirt. Sand. Sawdust. Collect in suitable and properly labeled containers. Wash the spill site with water. See Section 13, Disposal Considerations, for additional information.

**Personal Precautions:** Isolate area. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental Precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

## 7. Handling and Storage

### Handling

**General Handling:** Avoid contact with eyes. Wash thoroughly after handling. Keep container closed. This material is hygroscopic in nature. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Other Precautions:** Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

### Storage

Protect from atmospheric moisture. Store in a dry place. Avoid prolonged exposure to heat and air. Store in the following material(s): Carbon steel. Stainless steel. Polypropylene. Polyethylene-lined container. Teflon. Glass-lined container. Aluminum. Plasite 3066 lined container. Plasite 3070 lined container. 316 stainless steel. See Section 10 for more specific information.

<b>Shelf life: Use within</b>	<b>To maintain product quality, recommended storage temperature is</b>
12 Months	15 - 25 °C

## 8. Exposure Controls / Personal Protection

### Exposure Limits

Component	List	Type	Value
Polyethylene glycol	AIHA WEEL	TWA Particulate.	10 mg/m3
Diethylene glycol	AIHA WEEL	TWA	10 mg/m3
	UK WEL	TWA	101 mg/m3 23 ppm

### Personal Protection

**Eye/Face Protection:** Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

**Skin Protection:** When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, boots, apron, or full-body suit will depend on the task.

**Hand protection:** Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Respiratory Protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

**Ingestion:** Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

### Engineering Controls

**Ventilation:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

## 9. Physical and Chemical Properties

<b>Physical State</b>	Liquid.
<b>Color</b>	Yellow to brown
<b>Odor</b>	Characteristic
<b>Odor Threshold</b>	No test data available
<b>Flash Point - Closed Cup</b>	> 100 °C <i>Estimated.</i>
<b>Flammable Limits In Air</b>	<b>Lower:</b> No test data available <b>Upper:</b> No test data available
<b>Autoignition Temperature</b>	No test data available
<b>Vapor Pressure</b>	very low
<b>Boiling Point (760 mmHg)</b>	> 100 °C <i>Estimated.</i>
<b>Vapor Density (air = 1)</b>	No test data available
<b>Specific Gravity (H2O = 1)</b>	1.19 - 1.23 25 °C/25 °C <i>ASTM D891</i>
<b>Freezing Point</b>	No test data available
<b>Melting Point</b>	No test data available
<b>Solubility in water (by weight)</b>	Partially soluble
<b>pH</b>	No test data available
<b>Decomposition Temperature</b>	No test data available
<b>Partition coefficient, n-octanol/water (log Pow)</b>	No data available for this product. See Section 12 for individual component data.

Evaporation Rate (Butyl Acetate = 1)	No test data available
Kinematic Viscosity	600 - 1,200 mm <sup>2</sup> /s @ 25 °C <i>Vendor</i>

## 10. Stability and Reactivity

### Stability/Instability

Stable under recommended storage conditions. See Storage, Section 7.

**Conditions to Avoid:** Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

**Incompatible Materials:** Avoid contact with oxidizing materials. Avoid contact with: Strong acids. Strong bases. Avoid unintended contact with isocyanates. The reaction of polyols and isocyanates generates heat.

### Hazardous Polymerization

Will not occur by itself.

### Thermal Decomposition

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon dioxide. Alcohols. Ethers. Hydrocarbons. Ketones. Polymer fragments.

## 11. Toxicological Information

### Acute Toxicity

#### Ingestion

Oral toxicity is expected to be moderate in humans due to diethylene glycol even though tests with animals show a lower degree of toxicity. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. The data presented are for the following material: Diethylene glycol. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. May cause nausea and vomiting. May cause abdominal discomfort or diarrhea. Single dose oral LD50 has not been determined. The data presented are for the following material: Diethylene glycol. Lethal Dose, Human, adult 65 ml

#### Eye Contact

May cause slight temporary eye irritation. May cause slight temporary corneal injury.

#### Skin Contact

Prolonged contact may cause slight skin irritation with local redness.

#### Skin Absorption

Prolonged skin contact is unlikely to result in absorption of harmful amounts. Repeated skin exposure to large quantities may result in absorption of harmful amounts. The dermal LD50 has not been determined.

#### Inhalation

At room temperature, exposure to vapor is minimal due to low volatility. With good ventilation, single exposure is not expected to cause adverse effects. If material is heated or areas are poorly ventilated, vapor/mist may accumulate and cause respiratory irritation and symptoms such as headache and nausea.

### Repeated Dose Toxicity

In humans, effects have been reported on the following organs: Kidney. Gastrointestinal tract. In animals, effects have been reported on the following organs: Bladder. Respiratory tract. Liver. Central nervous system.

### Chronic Toxicity and Carcinogenicity

Diethylene glycol has been tested for carcinogenicity in animal studies and is not believed to pose a carcinogenic risk to man.

### Developmental Toxicity

Diethylene glycol has caused toxicity to the fetus and some birth defects at maternally toxic, high doses in animals. Other animal studies have not reproduced birth defects even at much higher doses that caused severe maternal toxicity.

#### Reproductive Toxicity

Diethylene glycol did not interfere with reproduction in animal studies except at very high doses.

#### Genetic Toxicology

For the component(s) tested: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

## 12. Ecological Information

### ENVIRONMENTAL FATE

Data for Component: **Polyester polyol**

#### Movement & Partitioning

For the major component(s): Bioconcentration potential is low ( $BCF < 100$  or  $\log Pow < 3$ ). Potential for mobility in soil is low ( $Koc$  between 500 and 2000). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

#### Persistence and Degradability

For the major component(s): Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Data for Component: **Polyethylene glycol**

#### Movement & Partitioning

|| No bioconcentration is expected because of the relatively high water solubility.

#### Persistence and Degradability

|| Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

#### OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
85 %	28 d	OECD 301F Test

Data for Component: **Diethylene glycol**

#### Movement & Partitioning

Bioconcentration potential is low ( $BCF$  less than 100 or  $\log Pow$  less than 3). Potential for mobility in soil is very high ( $Koc$  between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

**Henry's Law Constant (H):**  $7.96E-10 \text{ atm} \cdot \text{m}^3/\text{mole}$ ; 25 °C Estimated.

**Partition coefficient, n-octanol/water ( $\log Pow$ ):** -1.47 Estimated.

**Partition coefficient, soil organic carbon/water ( $Koc$ ):** < 1 Estimated.

#### Persistence and Degradability

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

#### OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
92 %	28 d	OECD 301C Test
82 - 98 %	28 d	OECD 302C Test

### ECOTOXICITY

Data for Component: **Polyester polyol**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

**Data for Component: Polyethylene glycol**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

**Fish Acute & Prolonged Toxicity**

LC50, emerald shiner (*Notropis atherinoides*), 72 h: > 100 mg/l

LC50, fathead minnow (*Pimephales promelas*), static, 96 h: > 10,000 mg/l

**Aquatic Invertebrate Acute Toxicity**

LC50, water flea *Daphnia magna*, 48 h: > 10,000 mg/l

**Data for Component: Diethylene glycol**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

**Fish Acute & Prolonged Toxicity**

LC50, rainbow trout (*Oncorhynchus mykiss*), 96 h: > 1,000 mg/l

**Aquatic Invertebrate Acute Toxicity**

EC50, water flea *Daphnia magna*, 48 h, immobilization: 48,900 mg/l

**Aquatic Plant Toxicity**

EC50, green alga *Pseudokirchneriella subcapitata* (formerly known as *Selenastrum capricornutum*), biomass growth inhibition, 7 d: > 100 mg/l

**Toxicity to Micro-organisms**

IC50, OECD 209 Test; activated sludge, respiration inhibition, 3 h: > 1,000 mg/l

### 13. Disposal Considerations

Any disposal practice must be in compliance with all local and national laws and regulations. Do not dump into any sewers, on the ground, or into any body of water.

### 14. Transport Information

**ROAD & RAIL**

Proper Shipping Name: ELEVATED TEMPERATURE LIQUID, N.O.S.

Technical Name: polyester polyol

Hazard Class: 9 ID Number: UN3257 Packing Group: PG III

Classification: M9

Kemler Code: 99

Tremcard Number: 90GM9-III

Environmental Hazard: No

**OCEAN**

Proper Shipping Name: ELEVATED TEMPERATURE LIQUID, N.O.S.

Technical Name: polyester polyol

Hazard Class: 9 ID Number: UN3257 Packing Group: PG III

EMS Number: F-A,S-P

Marine pollutant.: No

**AIR**

NOT REGULATED

Environmental Hazard: No

**INLAND WATERWAYS**

Proper Shipping Name: ELEVATED TEMPERATURE LIQUID, N.O.S.

Technical Name: polyester polyol

Hazard Class: 9 ID Number: UN3257 Packing Group: PG III

Classification: M9

Kemler Code: 99

Tremcard Number: 90GM9-III

Environmental Hazard: No

## 15. Regulatory Information

### European Inventory of Existing Commercial Chemical Substances (EINECS)

The components of this product are on the EINECS inventory or are exempt from inventory requirements.

### EC Classification and User Label Information

This product is not classified as dangerous according to EC criteria.

Safety data sheet available for professional users on request.

## 16. Other Information

### Risk-phrases in the Composition section

R22 Harmful if swallowed.

### Product Literature

Additional information on this product may be obtained by calling your sales or customer service contact.

### Revision

Identification Number: 1022762 / 3005 / Issue Date 2009/12/04 / Version: 3.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

*Dow Chemical Company Ltd urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.*

**Attachment 2**



**Focus Report**  
**New Chemicals Program**  
PMN Number: **P-10-0111**

Focus Date: 01/21/2010 12:00:00 AM Report Status: Completed  
Consolidated Set: P-10-0111; P-10-0112; P-10-0113; P-10-0114  
Focus Chair: Jeff Bauer Contractor: Paul Sohi

**I. Notice Information**

Submitter: The Dow Chemical Company CAS Number: [REDACTED]  
Chemical Name: [REDACTED]

Use: Polyester component in rigid polyurethane foam for construction panels [REDACTED], appliances [REDACTED], and spray applications [REDACTED]. The PMN material is a key component for improving thermal insulation and flame retardance in polyurethane rigid foams. Consolidated set P-10-0111 to P-10-0112 (P-10-0113-114 are NV). There are [REDACTED] for the PMN material, none for this use.

Other Uses: All analogs [REDACTED].

PV-Max: [REDACTED] Kg/yr  
Manufacture: X Import: [REDACTED]

**II. SAT Results**

(1) Health Rating: 1 Eco Rating: 1 Comments: ;

Occupational: Non-Occupational: NR Environmental: NR

(1) PBT: 2 1 1 Comments:

**III. OTHER FACTORS**

**Categories:**

Health Chemical Category: Ecotox Category: esters

**Related Cases/Regulatory History:**

Health related Cases: [REDACTED]  
Ecotox Related Cases: Analogs: [REDACTED]  
Regulatory History: [REDACTED] - pending 5(e) c order development

**MSDS/Label Information:**

MSDS:



**IV. Summary of SAT Assessment**

**Fate:**

Fate Summary: P-10-0111-12  
FATE: Estimations for typical [REDACTED]  
Liquid with MP < 25 EC (E)  
log Kow = -0.15 (E);  
S > 10 g/L at 25 EC (E)  
VP < 1.0E-6 torr at 25 EC (E)

BP > 400 EC (E)  
H < 1.00E-8 (E)  
log Koc = 1.00 (E)  
log Fish BCF = 0.50 (E)  
log Fish BAF = -0.04 (E)  
POTW removal (%) = 50-90 via sorption  
Time for complete ultimate aerobic biodeg = mo  
Sorption to soils/sediments = v.strong  
PBT Potential: P2B1  
\*CEB FATE: Migration to ground water = negl

## Health:

### Health Summary:

Absorption of the low molecular weight fraction [REDACTED] is poor all routes, based on analogs. No significant health concerns.

### Test Data:

Submitted with [REDACTED] (summaries only):

Mild skin irritant in rabbits;  
Rabbit acute oral LD50 > 6300 mg/kg;  
Rabbit acute dermal LD50 > 20 mL/kg

## Ecotox:

### Ecotox Values:

Fish 96-h LC50:	>100(P)
Daphnid 48-h LC50:	>100(P)
Green algal 96-h EC50:	>100(P)
Fish Chronic Value:	>10(P)
Daphnid ChV:	>10(P)
Algal ChV:	>10(P)

**Ecotox values comments:** Predictions are based on SARs for esters; SAR chemical class = ester; [REDACTED]; liquid (M); log Kow = -0.15 (EPI [REDACTED]); WS = 900 g/L at 20 C, pH 7 (P); pH7; effective concentrations based on 100% active ingredients and mean measured concentrations; DW hardness < 150.0 mg/L as CaCO3; and DW TOC <2.0 mg/L

### Ecotox Factors:

Assessment Factor:	10
Concern Concentration:	1000

## **V. Summary of Exposures/Releases**

Engineering Summary:

<b>Exposures/Releases</b>			
<b>Scenario</b>			
<b>Sites</b>			
<b>Media</b>			
Descriptor A			
Quantity A (kg/site/day)			
Frequency A (day/year)			
Descriptor B			
Quantity B (kg/site/day)			
Frequency B (day/year)			
From			
Workers			
Exposure Type			

## **VI. Focus Decision and Rationale**

### **Regulatory Actions**

Regulatory Decision: PMN Drop

Decision Date: 01/21/2010

Type of Decision:

Rationale: P-10-0111 was dropped from further review. Human health and ecotoxicity concerns were low. This is a CEB D2 drop.

P2 Rec Comments:

### **Testing:**

### **Final Recommended:**

Health:

Eco:

Fate:

Other:

## SAT Report

PMN Number: **P-10-0111**

SAT Date: **1/12/2010**

Print Date: **4/16/2015**

### Related cases:

Health related cases: [REDACTED]

Ecotox related cases: [REDACTED] Analogs: [REDACTED]

### Concern levels:

Type of Concern:	<u>Health</u>	<u>Eco</u>	<u>Comments</u>
Level of Concern:	1	1	

<u>Persistence</u>	<u>Bioaccum</u>	<u>Toxicity</u>	<u>Comments</u>
2	1	1	
		Awaiting	
		Human Health	
		Entry	
		Awaiting	
		Human Health	
		Entry	
		Awaiting	
		Human Health	
		Entry	

### Exposure Based Review:

**Health:** No

**Ecotox:** Yes

### Routes of exposure:

**Health:**

**Ecotox:** No releases to water

**Fate:** ;

### Keywords:

Keywords:

### Summary of Assessment:

#### Fate:

**Fate Summary:** P-10-0111-12

FATE: Estimations for typical [REDACTED]

Liquid with MP < 25 EC (E)

log Kow = -0.15 (E);

S > 10 g/L at 25 EC (E)  
 VP < 1.0E-6 torr at 25 EC (E)  
 BP > 400 EC (E)  
 H < 1.00E-8 (E)  
 log Koc = 1.00 (E)  
 log Fish BCF = 0.50 (E)  
 log Fish BAF = -0.04 (E)  
 POTW removal (%) = 50-90 via sorption  
 Time for complete ultimate aerobic biodeg = mo  
 Sorption to soils/sediments = v.strong  
 PBT Potential: P2B1  
 \*CEB FATE: Migration to ground water = negl

### **Health:**

**Health Summary:** Absorption of the low molecular weight fraction is poor all routes, based on analogs. No significant health concerns.

**Test Data:** Submitted with (summaries only):

Mild skin irritant in rabbits;  
 Rabbit acute oral LD50 > 6300 mg/kg;  
 Rabbit acute dermal LD50 > 20 mL/kg

### **Ecotox:**

Test Organism	Test Type	Test End Point	Predicted	Measured	Comments
fish	96-h	LC50	>100		
daphnid	48-h	LC50	>100		
green algal	96-h	EC50	>100		
fish	—	chronic value	>10		
daphnid	—	chronic value	>10		
algal	—	chronic value	>10		
Sewage Sludge	3-h	EC50	—		
Sewage Sludge	—	Chronic Value	—		

### **Ecotox Values Comments:**

Factors	Values	Comments
Assessment Factor	10	
Concentration of Concern (ppb)	1000	
SARs	esters	

SAR Class	ester	
Ecotox Category		

**Ecotox Factors Comments:**

**SAT Chair:** J. Kwiat

**Focus Report**  
**New Chemicals Program**  
PMN Number: **P-10-0112**

Focus Date: 01/21/2010 12:00:00 AM Report Status: Completed  
Consolidated Set: P-10-0111; P-10-0112; P-10-0113; P-10-0114  
Focus Chair: Jeff Bauer Contractor: Paul Sohi

**I. Notice Information**

Submitter: The Dow Chemical Company CAS Number: [REDACTED]  
Chemical Name: [REDACTED]  
Use: Polyester component in rigid polyurethane foam for construction panels [REDACTED], appliances [REDACTED], and spray applications [REDACTED]. The PMN material is a key component for improving thermal insulation and flame retardance in polyurethane rigid foams. Consolidated set P-10-0111 to P-10-0112 (P-10-0113-114 are NV). No references were found for the PMN material.  
Other Uses: All analogs are [REDACTED].  
PV-Max: [REDACTED] Kg/yr  
Manufacture: X Import:

**II. SAT Results**

(1) Health Rating: 1 Eco Rating: 1 Comments: ;  
Occupational: Non-Occupational: NR Environmental: NR  
(1) PBT: 2 1 1 Comments:

**III. OTHER FACTORS**

**Categories:**

Health Chemical Category: Ecotox Category: esters

**Related Cases/Regulatory History:**

Health related Cases: [REDACTED]  
Ecotox Related Cases: Analogs: [REDACTED]  
Regulatory History: [REDACTED] - pending 5(e) c order development

**MSDS/Label Information:**

MSDS:



**IV. Summary of SAT Assessment**

**Fate:**

Fate Summary: P-10-0111-12  
FATE: Estimations for [REDACTED]  
Liquid with MP < 25 EC (E)  
log Kow = -0.15 (E);  
S > 10 g/L at 25 EC (E)  
VP < 1.0E-6 torr at 25 EC (E)

BP > 400 EC (E)  
H < 1.00E-8 (E)  
log Koc = 1.00 (E)  
log Fish BCF = 0.50 (E)  
log Fish BAF = -0.04 (E)  
POTW removal (%) = 50-90 via sorption  
Time for complete ultimate aerobic biodeg = mo  
Sorption to soils/sediments = v.strong  
PBT Potential: P2B1  
\*CEB FATE: Migration to ground water = negl

## Health:

### Health Summary:

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### Test Data:

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Rabbit acute oral LD50 > 6300 mg/kg;  
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## Ecotox:

### Ecotox Values:

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Daphnid 48-h LC50:	>100(P)
Green algal 96-h EC50:	>100(P)
Fish Chronic Value:	>10(P)
Daphnid ChV:	>10(P)
Algal ChV:	>10(P)

**Ecotox values comments:** Predictions are based on SARs for esters; SAR chemical class = ester; [REDACTED] [REDACTED]; liquid (M); log Kow = -0.15 (EPI a=b=1); WS = 900 g/L at 20 C, pH 7 (P); pH7; effective concentrations based on 100% active ingredients and mean measured concentrations; DW hardness < 150.0 mg/L as CaCO3; and DW TOC <2.0 mg/L

### Ecotox Factors:

Assessment Factor:	10
Concern Concentration:	1000

## **V. Summary of Exposures/Releases**

Engineering Summary:

<b>Exposures/Releases</b>			
<b>Scenario</b>			
<b>Sites</b>			
<b>Media</b>			
Descriptor A			
Quantity A (kg/site/day)			
Frequency A (day/year)			
Descriptor B			
Quantity B (kg/site/day)			
Frequency B (day/year)			
From			
Workers			
Exposure Type			

## **VI. Focus Decision and Rationale**

### **Regulatory Actions**

Regulatory Decision: PMN Drop

Decision Date: 01/21/2010

Type of Decision:

Rationale: P-10-0112 was dropped from further review. Human health and ecotoxicity concerns were low. This is a CEB D2 drop.

P2 Rec Comments:

### **Testing:**

### **Final Recommended:**

Health:

Eco:

Fate:

Other:

**SAT Report**  
PMN Number: **P-10-0112**  
SAT Date: **1/12/2010**  
Print Date: **4/16/2015**

**Related cases:**

Health related cases: [REDACTED]

Ecotox related cases: [REDACTED],  
[REDACTED]

**Concern levels:**

Type of Concern:	<u>Health</u>	<u>Eco</u>	<u>Comments</u>
Level of Concern:	1	1	

<u>Persistence</u>	<u>Bioaccum</u>	<u>Toxicity</u>	<u>Comments</u>
2	1	1	
		Awaiting	
		Human Health	
		Entry	
		Awaiting	
		Human Health	
		Entry	
		Awaiting	
		Human Health	
		Entry	

**Exposure Based Review:**

**Health:** No

**Ecotox:** Yes

**Routes of exposure:**

**Health:**

**Ecotox:** No releases to water

**Fate:** ;

**Keywords:**

**Keywords:**

**Summary of Assessment:**

**Fate:**

**Fate Summary:** P-10-0111-12

FATE: Estimations for typical [REDACTED]

Liquid with MP < 25 EC (E)

log Kow = -0.15 (E);

S > 10 g/L at 25 EC (E)  
 VP < 1.0E-6 torr at 25 EC (E)  
 BP > 400 EC (E)  
 H < 1.00E-8 (E)  
 log Koc = 1.00 (E)  
 log Fish BCF = 0.50 (E)  
 log Fish BAF = -0.04 (E)  
 POTW removal (%) = 50-90 via sorption  
 Time for complete ultimate aerobic biodeg = mo  
 Sorption to soils/sediments = v.strong  
 PBT Potential: P2B1  
 \*CEB FATE: Migration to ground water = negl

### **Health:**

**Health Summary:** Absorption of the low molecular weight fraction [REDACTED]  
 [REDACTED] is poor all routes, based on analogs. No significant health concerns.

### **Test Data:**

Submitted with [REDACTED] (summaries only):

Mild skin irritant in rabbits;  
 Rabbit acute oral LD50 > 6300 mg/kg;  
 Rabbit acute dermal LD50 > 20 mL/kg

### **Ecotox:**

Test Organism	Test Type	Test End Point	Predicted	Measured	Comments
fish	96-h	LC50	>100		
daphnid	48-h	LC50	>100		
green algal	96-h	EC50	>100		
fish	–	chronic value	>10		
daphnid	–	chronic value	>10		
algal	–	chronic value	>10		
Sewage Sludge	3-h	EC50	–		
Sewage Sludge	–	Chronic Value	–		

### **Ecotox Values Comments:**

Factors	Values	Comments
Assessment Factor	10	
Concentration of Concern	1000	

(ppb)		
SARs	esters	
SAR Class	ester	
Ecotox Category		

**Ecotox Factors Comments:**

**SAT Chair:** J. Kwiat